

ABSTRACT OF THE DISCLOSURE

An electromagnetic device including an outer casing, a shaft rotatably supported by the outer casing, and a motor main body disposed inside the outer casing. The motor main body has a stator and a rotor. The stator has coils constructed by winding conducting wires onto conducting-wire spool portions of first and second bobbins. The coils are embedded in an outer molding, cores are disposed so as to cover the outer molding, and the rotor is secured to the shaft. The coils are constituted by first phase and second phase excitation coils formed by winding two of the conducting wires into unifilar windings on the conducting-wire spool portion of the first bobbin. Further, third phase and fourth phase excitation coils are formed by winding two of the conducting wires into unifilar windings on the conducting-wire spool portion of the second bobbin.